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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER				
SARPONG, AKWASI				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/826,315

Applicant(s)

HIRABAYASHI ET AL.

Examiner

AKWASI M. SARPONG

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2009.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9-12 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-6 and 9-12 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-850/8)
Paper No(s)/Mail Date 03/31/2008 and 12/10/2008
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 1 and 6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant claims that a "laser exposure amount corresponds to a target halftone value in a plurality of halftone dot patterns". However applicant in his specification does not clearly explain or mention how a laser exposure amount corresponds to a target halftone value. Apparently applicant does not mention or explain what a "target halftone value" actually is in his disclosure.
2. Claims 2-5 and 13 are also rejected under 35 U.S.C 112, first paragraph because they also depend on claim 1 and therefore it becomes part of claim 1.
3. Claims 9-12 and 14 are also rejected under U.S.C 112, first paragraph because they also depend on Claim 6 and therefore it becomes part of Claim 6.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6 and 9-12 are rejected under 35 U.S.C. 102(e) as being anticipated by over Kawano (6480302).

Claim 1, Kawano discloses an image forming method using an electro photographic method, **(Col. 16 lines 57-61- thus the printing operation is carried out by using electro photographic printing)** comprising:

an expansion step of expanding image data which includes halftone dot patterns **(Col. 6 lines 34-37- thus rasterizing an image means processing the continuous image into bitmaps)** at a resolution higher than a resolution performance capability of an output apparatus. **(Col. 6 lines 38-40- thus the resolution of the bitmap is higher than the printing resolution-(resolution of the output apparatus)).**

a resolution conversion step of converting high-resolution data, which is the result of expansion at said expansion step, **(Col. 6 lines 40-41- thus the resolution of the raster zed bitmap is converted)** to a resolution conversion to an actual resolution of the output apparatus, by a prescribed low-resolution conversion **(Col. 6 lines 35-45-**

thus inherently the resolution conversion has to convert the resolution of the image to the printing resolution of the printer so that it can be printed or outputted) method

and

an image formation step of forming an image represented by image data, using a laser exposure unit (**Laser Element 132 shown in Fig. 12**) wherein a laser exposure amount, (**Col. 14 lines 19-26 – thus the amount of laser light emitted onto the medium depends on the current value therefore greater the current value, the more amount of laser emitted or exposed to the medium**) corresponding to a target halftone value (**Col. 13 lines 45-49- thus the target halftone value is the same as value or number of the pixel of interest-hence the pixel that laser must be applied**) in any one of a plurality of halftone dot patterns is determined such that each density of the plurality of halftone dot patterns is equal, (**Col. 6 lines 53-64 thus the given pixels values such as “7Fh” helps to determine the amount of laser to be exposed to that pixel or as clearly stated the “black pixel will be converted as such**) wherein each density of the plurality of halftone dot patterns is the same before being resolution-converted in the resolution conversion step (**thus it is inherent that the density of all the pixels will be the same because there has not been any changes or conversion to the pixels yet**) and differs from each other after being resolution-converted. (**Col. 6 lines 53-56- thus some pixels will be converted with the value “3Fh” or “7Fh” depending on the pixel value and therefore the resolution will differ**).

Claim 2, Kawano discloses a method wherein said resolution conversion step includes averaging the high-resolution data using a matrix of a predetermined size and subjecting the actual resolution of the output apparatus to a resolution conversion. **(Col. 6 lines 53-56, Fig. 5 a-x are matrixes are used in the conversion of the bitmaps which has a higher resolution than the printing apparatus).**

Claim 3, Kawano discloses a method wherein said resolution conversion step includes averaging the high-resolution data using a matrix in which boxes of a matrix of a predetermined size have been shifted by one-half pixel. **(Col. 5 lines 30-36-thus the adding unit 11 during the adding process finds the average of the pixel numbers).**

Claim 4, Kawano discloses a method wherein a prescribed pattern is formed that will take on a different image formation state by the prescribed low-resolution conversion method despite the fact that an original image pattern is the same the density of the prescribed pattern is measured, **(Fig. 5a-x shows the prescribed pattern which is used during the resolution conversion)** and the laser exposure is determined in such a manner that the density of the prescribed pattern will be the same before and after image formation. **(Col. 6 lines 53-64 thus the given pixels values such as "7Fh" helps to determine the amount of laser to be exposed to that pixel or as clearly stated the "black pixel will be converted as such).**

Claim 5, Kawano discloses a method wherein a prescribed pattern is formed that is repeated at fixed intervals, the density of the prescribed pattern is measured and the laser exposure based upon the measured density in such a manner that a difference in average density will not develop between the prescribed patterns. **(Kawano: Col. 6 lines 35-45- thus inherently the resolution conversion has to convert the resolution of the image to the printing resolution of the printer so that it can be printed or outputted)**

Claim 6, Kawano discloses an image forming apparatus for deciding laser exposure when image formation is performed by an electro photo graphic process **(Col. 16 lines 57-61- thus the printing operation is carried out by using electro photographic printing)**, comprising:

an expansion unit adapted to expand image data which includes halftone dot patterns **(Col. 6 lines 34-37- thus rasterizing an image means processing the continuous image into bitmaps)** at a resolution higher than a resolution performance capability of an output apparatus. **(Col. 6 lines 38-40- thus the resolution of the bitmap is higher than the printing resolution-(resolution of the output apparatus)).**

a resolution conversion unit adapted to convert high resolution data, which is the result of expansion at said expansion unit, **(Col. 6 lines 40-41- thus the resolution of the raster zed bitmap is converted)** to an actual resolution of the output apparatus, by a prescribed low-resolution conversion method **(Col. 6 lines 35-45- thus inherently**

the resolution conversion has to convert the resolution of the image to the printing resolution of the printer so that it can be printed or outputted).

an image formation unit of forming an image represented by image data, using a laser exposure unit **(Laser Element 132 shown in Fig. 12)**

wherein a laser exposure amount, **(Col. 14 lines 19-26 – thus the amount of laser light emitted onto the medium depends on the current value therefore greater the current value, the more amount of laser emitted or exposed to the medium)** corresponding to a target halftone value **(Col. 13 lines 45-49- thus the target halftone value is the same as value or number of the pixel of interest-hence the pixel that laser must be applied)** in any one of a plurality of halftone dot patterns is determined such that each density of the plurality of halftone dot patterns is equal, **(Col. 6 lines 53-64 thus the given pixels values such as “7Fh” helps to determine the amount of laser to be exposed to that pixel or as clearly stated the “black pixel will be converted as such)** wherein each density of the plurality of halftone dot patterns is the same before being resolution-converted in the resolution conversion step **(thus it is inherent that the density of all the pixels will be the same because there has not been any changes or conversion to the pixels yet)** and differs from each other after being resolution-converted. **(Col. 6 lines 53-56- thus some pixels will be converted with the value “3Fh” or “7Fh” depending on the pixel value and therefore the resolution will differ).**

Claim 8, -Cancelled

Claim 9, Kawano discloses wherein said resolution conversion unit averages the high-resolution data using a matrix of a predetermined size and subjects the actual resolution of the output apparatus to a resolution conversion. **(Col. 6 lines 53-56, Fig. 5 a-x are matrixes are used in the conversion of the bitmaps which has a higher resolution than the printing apparatus).**

Claim 10, Kawano discloses wherein said resolution conversion unit averages the high-resolution data using a matrix in which boxes of a matrix of a predetermined size have been shifted by one-half pixel. **(Col. 5 lines 30-36-thus the adding unit 11 during the adding process finds the average of the pixel numbers).**

Claim 11, Kawano discloses wherein a prescribed pattern is formed that will take on a different image formation state by the prescribed low- resolution conversion method despite the fact that an original image pattern is the same, the density of the prescribed pattern formed is measured, **(Fig. 5a-x shows the prescribed pattern which is used during the resolution conversion)** and the laser exposure is determined in such a manner that the density of the prescribed pattern will be the same before and after image formation. **(Col. 6 lines 53-64 thus the given pixels values**

such as “7Fh” helps to determine the amount of laser to be exposed to that pixel or as clearly stated the “black pixel will be converted as such).

Claim 12, Kawano discloses an apparatus wherein a prescribed pattern is formed that is repeated at fixed intervals, the density of the prescribed pattern is measured, and the laser exposure is determined based on the measured density in such a manner that a difference in average density will not develop between the prescribed patterns. **(Col. 6 lines 35-45- thus inherently the resolution conversion has to convert the resolution of the image to the printing resolution of the printer so that it can be printed or outputted)**

Response to Applicant's Remarks:

1. Applicant's arguments filed 03/11/2009 have been fully considered but they are not persuasive.
2. Regarding the claimed invention applicant argued that the cited reference fails to disclose an image forming method an electro photographic process, comprising:

an expansion step of expanding image data, which includes halftone dot patterns, at a resolution higher than a resolution performance capability of an output apparatus;

a resolution conversion step of converting high-resolution data, which is the result of expansion in said expansion step, to an actual resolution of the output apparatus, by a prescribed low-resolution conversion method; and

an image formation step of forming an image represented by image data using a laser exposure unit,

wherein a laser exposure amount, corresponding to a target halftone value in any one of a plurality of halftone dot patterns, is determined such that each density of the plurality of halftone dot patterns is equal, and wherein each density of the plurality of halftone dot patterns is the same before being resolution-converted in the resolution conversion step and differs from each other after being resolution-converted.

In reply, Kawano discloses an image forming apparatus for deciding laser exposure when image formation is performed by an electro photo graphic process (**Col. 16 lines 57-61- thus the printing operation is carried out by using electro photographic printing**), comprising:

an expansion unit adapted to expand image data which includes halftone dot patterns (**Col. 6 lines 34-37- thus rasterizing an image means processing the continuous image into bitmaps**) at a resolution higher than a resolution performance capability of an output apparatus. (**Col. 6 lines 38-40- thus the resolution of the bitmap is higher than the printing resolution-(resolution of the output apparatus)**).

a resolution conversion unit adapted to convert high resolution data, which is the result of expansion at said expansion unit, (**Col. 6 lines 40-41- thus the resolution of the raster zed bitmap is converted**) to an actual resolution of the output apparatus, by a prescribed low-resolution conversion method (**Col. 6 lines 35-45- thus inherently**

the resolution conversion has to convert the resolution of the image to the printing resolution of the printer so that it can be printed or outputted).

an image formation unit of forming an image represented by image data, using a laser exposure unit **(Laser Element 132 shown in Fig. 12)**

wherein a laser exposure amount, **(Col. 14 lines 19-26 – thus the amount of laser light emitted onto the medium depends on the current value therefore greater the current value, the more amount of laser emitted or exposed to the medium)** corresponding to a target halftone value **(Col. 13 lines 45-49- thus the target halftone value is the same as value or number of the pixel of interest-hence the pixel that laser must be applied)** in any one of a plurality of halftone dot patterns is determined such that each density of the plurality of halftone dot patterns is equal, **(Col. 6 lines 53-64 thus the given pixels values such as “7Fh” helps to determine the amount of laser to be exposed to that pixel or as clearly stated the “black pixel will be converted as such)** wherein each density of the plurality of halftone dot patterns is the same before being resolution-converted in the resolution conversion step **(thus it is inherent that the density of all the pixels will be the same because there has not been any changes or conversion to the pixels yet)** and differs from each other after being resolution-converted. **(Col. 6 lines 53-56- thus some pixels will be converted with the value “3Fh” or “7Fh” depending on the pixel value and therefore the resolution will differ).**

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AKWASI M. SARPONG whose telephone number is (571)270-3438. The examiner can normally be reached on Monday-Friday 8:00am-5:00pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Poon can be reached on 571-272-7440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/King Y. Poon/
Supervisory Patent Examiner, Art Unit 2625

AMS:
06/26/2009